

FACT SHEET: CARROT PRODUCTION

Carrot is a seasonal vegetable that is popular and nutritious and can be grown for home consumption and income generation. Carrots may be eaten raw or cooked, including with other vegetables in a stew. Carrots may be grown in kitchen gardens with other vegetables or separately in small, prepared gardens.



Harvested carrots

SITE SELECTION AND LAND PREPARATION

Carrots grow best in finely textured sandy loam and deep soils with good drainage for long and straight taproot growth. Clayey, wet, and compacted soils produce shorter roots with branched secondary roots, reducing quality. Growing carrots in raised beds increases drainage of internal and surface water.

Before seeding, clear the soil surface of all plant debris and rocks, and break up all large aggregates of soil.



Land preparation

SOWING

- Carrots should be seeded every-two-weeks during the growing season for consistent production. Seeds germinate within 14 days and a mature carrot may be harvested 80 days after seeding, depending on cultivar and growing conditions.
- Carrot seeds may be mixed with sand for even seed distribution during sowing. Carrots are direct-seeded into a shallow furrow, which has a depth of 0.25-0.50 inches. Seeds are covered with a thin layer of soil. Raised beds with double rows spaced 2.5-3.5 inches apart are used.
- In windy sites or on slopes, an additional single row of vegetable crops planted every two carrot rows may be used to serve as a windbreak or create a barrier for water runoff and prevent damage to the carrot seedlings. Suitable vegetables include a row of onions, leeks, or collard greens.



Sowing carrots seeds

THINNING

The larger the space between carrots, the larger the diameter of the tap root. Remove excess carrot seedlings to a spacing of 3-4 inches apart when shoots are 1-3 inches tall. After thinning, mound a small amount of soil around the carrot seedlings to avoid exposing the top of the taproot to sunlight, which produces a green, unmarketable root.



Thinned carrots

SOIL MANAGEMENT

Carrots grow best in soil pH of 6.0-6.8 and require sufficient phosphorous, which is essential for root growth and development. Fertilizer application should be based on soil test analyses and recommendations. Avoid use of fresh manure as it may cause root branching and/or hairy tap roots. Well-rotted manure or finished compost should be applied before planting. If using fertilizer, use a split-application at seeding and 6 weeks after seeding to avoid over-fertilization. Carrots require about 40 kg N, 54 kg P, and 48 kg K per acre. Do not apply any fertilizers directly onto the carrot seedlings after they emerge, but side-dress any needed fertilizer applications.



Applying well decomposed manure

WATERING

Carrots do not grow well in dry soil conditions. Water the entire seedbed lightly and regularly for proper seed germination and root growth. Carrot growth requires 1 inch of water each week. Ensure that carrot roots are watered deep enough so that the taproot's end receives water, otherwise, the root tip may be deformed or fail to reach its full-size potential. Place a layer of straw mulch that is one-inch thick or sacks on top of the soil of raised beds at seeding to conserve moisture. Water the soil covering to accelerate germination, which could take more than 15 days without consistent moisture.



Watering

PEST MANAGEMENT

Ensure proper crop rotation and do not plant carrots in gardens that had carrots in the previous three growing seasons. Monitor plantings on a weekly basis to ensure that there are no disease or insect pests. Fungicides and insecticides may be applied when necessary. Use disease-resistant cultivars, clean and pest-free seed, and keep gardens clean of weeds. Weeds should be hand-pulled at least twice in the growing season to avoid competition for water and nutrients. Avoid any injury to the developing taproot when weeding to avoid branching which makes the carrot unmarketable.



Weeding

HARVESTING

As carrots mature, leaves dry out and die and turn from green to a tannish brown in color. Carrots may be hand-pulled in light-textured soils or carefully forked from the soil to avoid root damage. Carrot roots that are ready for harvest have a top diameter of about $\frac{3}{4}$ - 1 inch and may begin to emerge out of the soil, depending on the type of carrot.



Harvested carrots

STORAGE

Carrots should be stored in cool (0-1°C) and humid conditions (90-95 % relative humidity), and free of pests and vermin. An aerated, vermin-proof, and shaded structure may be used to store clean and washed roots. Select and store only marketable, undamaged roots to avoid rotting of carrots while in storage.



Storage place for carrots

POSTHARVEST HANDLING AND MARKETING

All practices should avoid injuring the roots. Remove the leaves and stems, wash, and clean all soil from the harvested carrots. Allow carrots to air-dry in the shade before packing or storing. Use clean water for washing carrots and clean containers (bags or aerated containers) for storage to prevent any cross-contamination. Carrots may be stored in a cool, dry place and should be checked daily for desiccation or rot. Potential markets for smallholder farmers include sales at local trading centers and shops and individual sales in the community. Determine markets before planting and/or harvesting to make sure that harvested carrots may be sold and taken to the market while in their peak quality. Carrots also may be grown and stored for personal consumption.



Harvested carrots in an aerated container

FOR MORE INFORMATION:

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